

Progress report (September 2015 – March 2016)

Theme 2: Solutions to challenges the Earth System faces

“Enhancement of urban disaster resilience through activities of local participatory platform”

Graduate School of Global Environmental Studies, Kyoto University
Person in charge of the project: Prof. Kenji OKAZAKI

1. Outline of the project

(1) Background and Objective

Catastrophic natural disasters have been occurring frequently over the world in recent years, killing hundreds of thousands of people. Urban disaster risk is also on the rise due to rapid urban growth and vulnerable buildings and infrastructure. Hence, enhancement of urban resilience against natural disasters is one of the urgent and important global issues. This project is implemented in Kathmandu, Nepal, and Yangon, Myanmar, which are prone and vulnerable to natural disasters, particularly earthquakes, aiming to enhance resilience of the cities against natural disasters through capacity buildings of the local stakeholders. Based on the results of these pilot projects, a universal model for urban resilience enhancement is developed. Kathmandu tackles earthquake disasters, while Yangon tackles earthquake and cyclone disasters. The goals of the project are to contribute to 2030 Agenda for Sustainable Development, to attain effective and robust science-policy interfaces at local level, and to contribute to Sendai Framework for Disaster Risk Reduction 2015-2030, adopted by 2015 UN World Conference on Disaster Risk Reduction (WCDRR). The project is conducted from September 2015 to March 2018 for 2 years 7 months, with the Grant for Global Sustainability (GGS), initiated by the United Nations University (UNU), Tokyo, Japan.

(2) Activities

Firstly, pilot projects are conducted in Kathmandu and Yangon. The two cities establish a local platform where stakeholders work and discuss together to understand and assess the disaster risk of the city, estimate probable damages, propose policies, and make action plans. In order to facilitate these activities, local counterpart organizations are selected from local governments, universities, and NGOs respectively. The counterpart universities/NGOs and the Japanese researchers conduct some joint researches to support enhancement of urban disaster resilience.

Secondly, a universal model for urban resilience enhancement is developed at a multi-disciplinary approach, i.e. combination of engineering approach and political/social approach, based on the experiences of the pilot projects and the joint researches in the two cities. The model will describe how to conduct similar projects to enhance the resilience against various natural disasters.

Table 1 Schedule of the activities

Planned Activities	2015 FY (Aug. 2015 - Mar. 2016)	2016 FY (Apr. 2016 - Mar. 2017)	2017 FY (Apr. 2017 - Mar. 2018)
1. Conducting Pilot Project in each city			
(1) Kick-off meeting to establish a local platform	←→★★ Kick off meeting		
(2) Conduct risk assessment and damage estimate of earthquakes		←→	
(3) Make disaster reduction policies and action plan			←→
(4) Research on specific topics		←→	←→
2. Establishing a general model for increasing urban disaster resilience			
(1) Extracting general methods for establishment of the general model		←→	←→
(2) Establishment of the general model			←→
3. Information/data sharing and networking			
	★ Kick off international meeting		★ Closing international conference

(3) Participating organizations

The project is conducted by Graduate School of Global Environmental Studies (GSGES), Kyoto University, in collaboration with some Japanese researchers from other institutions. Global Earthquake Model Foundation (GEM) provides technical tools and technical assistance to the pilot cities for earthquake risk assessment, damage estimate, and training. In the pilot cities of Kathmandu and Yangon, counterpart organizations are selected and assigned to conduct the pilot projects, namely a municipality(s), a university, and an NGO.

2. Progress from September 2015 to March 2016

(1) Identification of the participating organizations

Local counterparts

The project leader and some researchers visited Yangon 10-12 September, and Kathmandu 6-10 October, to discuss with the key experts and possible counterparts, and identified the participating organizations from the two cities as follows.

Kathmandu

- Lalitpur Sub Metropolitan City Office (LSMC) and Karyabinayak Municipality Office (KMC)
- Centre for Disaster Studies (CDS), Institute of Engineering (IOE), Tribhuvan University
- National Society for Earthquake Technology-Nepal (NSET)

Yangon

- Yangon City Development Committee (YCDC)
- Faculty of Engineering, Yangon Technological University (YTU)
- Myanmar Engineering Society (MES)

Japanese researchers

Participating researchers from Japan were identified as follows.

GSGES

- Kenji Okazaki (Prof.): Project Leader
- Junji Kiyono (Prof.), Aiko Furukawa (Assoc. Prof.): Urban seismic risk assessment
- Rajib Shaw (Program Specific Prof.), Koichi Shiwaku (Researcher): Disaster education and action plan
- Kenji Okazaki (Prof.), Hirohide Kobayashi (Assoc. Prof.): Housing safety and risk perception
- Makoto Usami (Prof.): Social fairness of policies and action plans

Others

- Kazuyoshi Nishijima (Assoc. Prof., Disaster Prevention Research Institute (DPRI), Kyoto University), Seitaro Tajiri (Assoc. Prof., University of Tokyo): Practical seismic diagnosis methods reflecting variation in building quality

International expert(s)

GEM

- Carlos Villacis (Regional Project Manager and Strategy Coordinator), Christopher Burton (Social Vulnerability and Integrated Risk Coordinator)

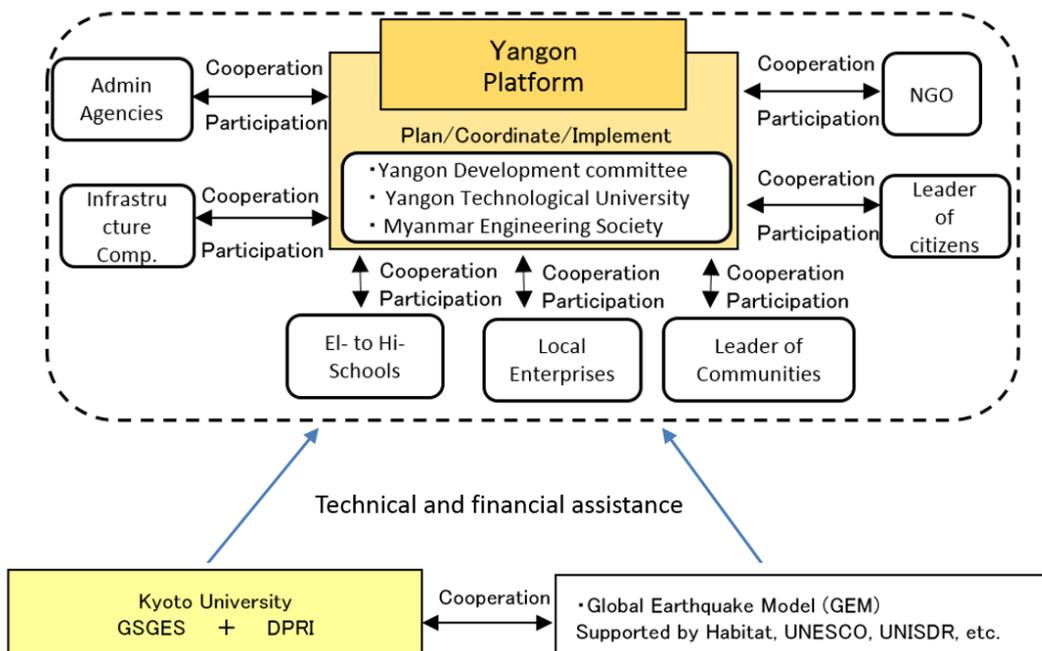


Fig. 1 Participating organizations and the established structure (Yangon)

(2) Conclusion of MOU

MOU was concluded between GSGES and the local counterpart organizations in the two cities to clarify the role and responsibilities of the participating parties. MOU with Kathmandu was concluded on 22 January 2016, and MOU with Yangon on 12 February 2016. The role and responsibilities of the participating parties are provided in MOU as follows.

Municipalities:

- Establish and manage a participatory platform
- Develop the earthquake damage estimate and the action plan

University:

- Provide scientific and technical advice to municipalities
- Conduct joint researches with the Japanese researchers

NGO:

- Provide technical and practical advice to the municipalities
- Conduct community-based projects

GSGES

- Provide technical advice and financial assistance as grant

(3) International Kick-off Conference

The international kick-off conference was organized in Kathmandu from 21st to 23rd January 2016 and in Yangon from 16th to 19th March 2016, to launch the pilot project in the two cities, and to initiate discussion on the establishment of a local participatory platform(s) needed for the enhancement of urban disaster resilience, and to conduct a field survey for the international participants. After the discussion among the local stakeholders during and after the kick-off conference, the following has been decided regarding the local platform and the pilot areas within the cities.

Table 2 Targeted areas for the local platform

Kathmandu, Nepal		
Lalitpur Sub-Metropolitan City	Ward No. 16	The existing DRR Committee of Ward No. 16 is used as the platform.
Karyabinayak Municipality	The entire municipality	Municipal-level local platform is established.
Yangon, Myanmar		
Pazundaung Township	One ward in each of the three townships is chosen.	The existing Disaster Management Committee at the ward level is used as the platform.
Tar Mwe Township		
Kyauktada Township		

(4) Joint research

Under the topic of Disaster Education and Action Plan, the first joint field surveys were conducted before the kick-off conferences by Prof. Shaw and Shiwaku. In order to assess resilience of communities and schools, Climate Disaster Resilience Index (CDRI) and School Disaster Resilience Assessment (SDRA) were applied in the targeted areas.

During and after the kick-off conferences, the Japanese researchers and local experts discussed the research topics and identified the local participants such as professors, students, and government officers, and elaborated how the research should be conducted.

(5) Collaboration between the two cities

In order to promote collaboration between Kathmandu and Yangon, 3 experts of Yangon were invited to the kick-off conference in Kathmandu, and 2 experts of Kathmandu were invited to the kick-off conference in Yangon. In addition, one Yangon expert was invited to participate in the GEM training workshop, which was held for 2 days in October 2015 in Pavia, Italy.